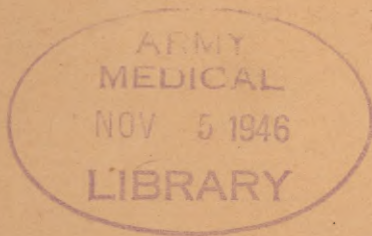


JAPANESE MEDICAL EQUIPMENT

OZAENOL

(Compound Nasal Solution containing Chloral-chlorobutanol)

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25 July 1946

MEDICAL ANALYSIS SECTION  
5250th Technical Intelligence Company  
APO 500



25 July 1946

OZAEENOL

(Compound Nasal Solution containing Chloral-chlorobutanol)

SOURCE: Tokyo, Japan

IMPORTANCE: Not previously reported. A compound solution indicated in ozena and containing a synthetic organic product (chloral-chlorobutanol) which is not recorded in available standard American references.

DESCRIPTION: Ozaenol is a solution contained in an amber-colored stoppered bottle. A fine sediment is present and it probably is the result of decomposition. The bottle is further packaged in a cardboard container.

Chloral-chlorobutanol consists of colorless, fused crystals with a characteristic campher-like odor.

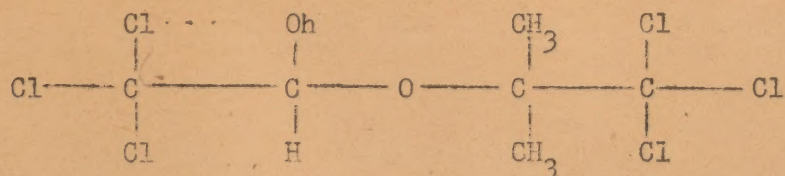
SUMMARY OF GENERAL INFORMATION: Ozaenol is a solution intended for the relief of ozena. Its main ingredients are ethyl-morphine hydrochloride (Dionin) and trichloro-oxyethyl-trichloro-tertiary-butyl-ether (chloral-chlorobutanol). The formula, which is contained on a label of the bottle, follows:



Ethyl-morphine hydrochloride	0.2%
Chloral-chlorobutanol	0.2%
Benzoic acid	0.1%
Chloretone (chlorobutanol)	0.2%
Alcohol	30.0%
Gelatin	0.4%
Sodium bicarbonate	0.5%
Mucilage of acacia	6.0%
Glycerin	8.0%
Argoelectrosol (colloidal silver)	10.0%

All of the above ingredients except Chloral-chlorobutanol are well known in American medicine and merit no further attention. The information listed below on chloral-chloretone was obtained by interrogating Mr. Taku Makino, chief chemist and director of the Sakuragi Pharmaceutical Co., Ltd., currently located at No. 2155, Yegota, Itabashi-ku, Tokyo and at No. 721, 1-chome, Ikebukuro, Toshima-ku, Tokyo. Mr. Makino's home address is No. 3893, 8-chome, Shiina-machi, Toshima-ku, Tokyo.

Chloral-chlorobutanol is trichloro-oxyethyl-trichloro-tertiary-butyl-ether of the following probable chemical structure:



It melts at 63-65°C., is very soluble in alcohol and slightly soluble in water (approximately 1%).

After ingestion, it is believed to slowly liberate chloral, which is responsible for its hypnotic action. It also possesses a



local anaesthetic action. Its per-oral dose is generally 0.5-1.0 gm. and the maximum single dose, 2.0 gm. A 1% aqueous solution may be employed externally as a local anaesthetic.

The product is manufactured by mixing 100 gm. of chloral hydrate ( $\text{C Cl}_3\text{-CHO}\cdot\text{H}_2\text{O}$ ) and 112 gm. of Chlorobutanol ( $\text{Cl}_2\text{-C-(CH}_3)_2\text{-OH}\cdot\frac{1}{2}\text{H}_2\text{O}$ ) in an evaporating dish and heating on a water bath. The mixture melts and with constant stirring the reaction is complete in about 15 minutes. The product is cooled, powdered and used in the manufacture of Ozaenol without any further purification.

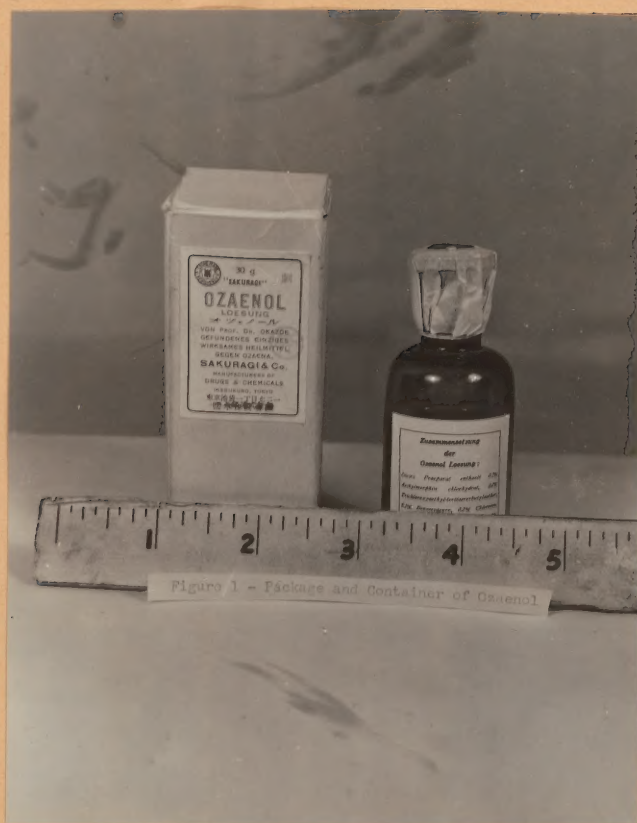
While many addition compounds of chloral are known, chloral-chlorobutanol has not been employed in American medicine. Its properties as a preservative, local anaesthetic, somnifacient, etc., and its toxicity have not been sufficiently investigated to permit an evaluation.

#### PHOTOGRAPHS:

Figure 1 - Package and container of Ozaenol

Figure 2 - Ozaenol literature

Figure 3 - Chloral-chlorobutanol





醫學博士 小此木修三先生實驗推獎

醫學博士 岡崎武氏 創製  
醫學博士 田村弘隆氏

臭鼻症新劑

オツエノール OZAENOL LOESUNG

臭鼻症の病原に就ては學說區々にして一定せず、従つて適確なる療法無く臨床家の常に遺憾とする處なり。

本劑は之れが療法に付慶應義塾大學醫學部耳鼻咽喉科教室に於て岡崎、田村兩博士が多年苦心研究の結果創製せられ、幾多の嚴密なる治驗を経て學界に發表せられたる臭鼻症に對する優秀なる治療劑にして、兩博士指導の下に製造提供せるものなり。

### 成分及性状

本劑は Aethylmorphin chlorhydrat und Tri chloroxyaethyl-trichlortertiaerbutyläther を主體とし之れに銀コロイド、粘液溶解藥、グリセリン等を配合して調製せる淡褐色透明の液體にして僅かに香氣と苦味を有し鼻粘膜に塗布すれば軽度の刺激あれども間もなく患者は著しき鼻内快感を感じず。

### 藥理作用

本劑は鼻粘膜の充血、分泌増加又輕度の腫脹を惹起し萎縮の回復並に病的浸潤物の吸収を促すを以て臭鼻症に對し適確なる効果を期待し得べく、且つ鼻腔内細菌の増殖を妨げ分泌物の分解に依て發する異常臭氣を除き、痂皮の軟化排出を容易ならしむる作用あるが故に、本劑を臭鼻症患者に應用する時は速に自覺症狀を去らしめ從來殆んど不治とせられたる臭鼻症をして逐次快方治癒に向はしむる事を得べし。

### 適應症

臭鼻症、單純性萎縮性鼻炎、乾性前鼻炎、咽頭オツエナー、喉頭オツエナー慢性咽頭加答兒、慢性喉頭加答兒、其他乾燥感を伴へる鼻咽喉疾患。

### 使用法

單純性痂削性鼻炎にて痂皮形成著しからざるものは先づ藥劑を塗布することなく、鼻洗滌を行ひ鼻内を清淨し然る後本劑を鼻綿棒に浸し廣く鼻粘膜に塗布し、萎縮著しき場所は軽く按摩す、此方法を毎日一回反覆す。

臭鼻症患者又は痂皮形成著しきものは先づ本劑を鼻内に塗布す、然らば痂皮は軟化せられて容易に粘膜より剝離し得、然る後鼻洗滌を行へば容易に鼻内は清淨となる。鼻内清淨後再び本劑を廣く鼻粘膜に塗布し、萎縮部を軽く按摩す此方法を毎日一回反覆す、斯の如くすれば速かに臭氣及痂皮形成去り鼻汁分泌も減少し頭痛、頭重等の自覺症狀減退し萎縮も逐次回復す、但し本劑使用に當り輕症者に於て極稀に認むる所なるも本劑塗布後刺激稍強きに過ぐる事あり斯の如き場合には本劑を蒸留水を以て倍量に稀釋せしものより初め、後本劑の使用に移られたし。

(注意) 本劑を連續使用するも懸念すべき副作用絶對になし。

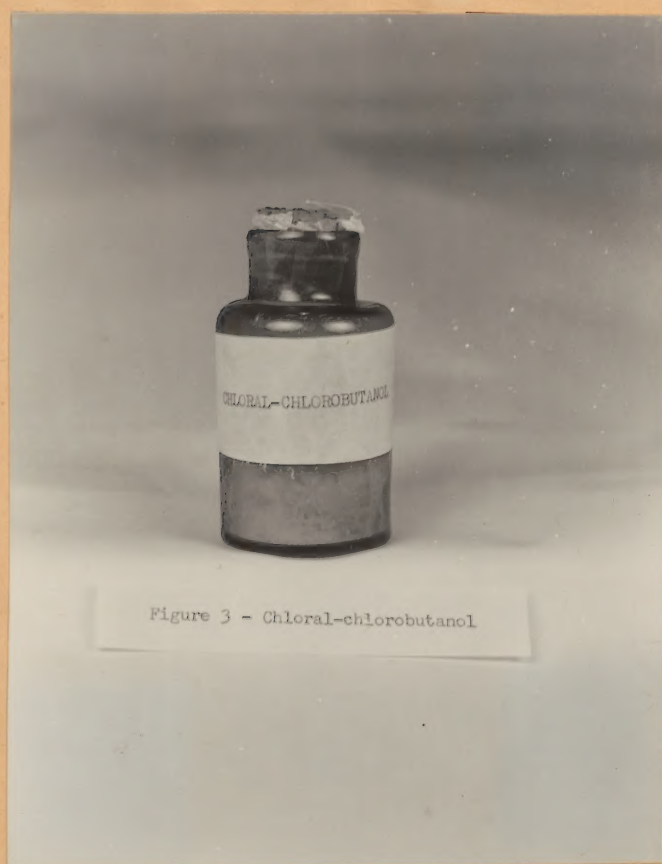
包裝 三〇瓦 一〇〇瓦 二五〇瓦 五〇〇瓦 各瓶入

東京市豊島區池袋一丁目七二一

製造元

櫻木合資會社

電話内線一七一五番





# TRANSLATION OF LITERATURE ACCOMPANYING OZAENOL SOLUTION

## OZAENOL SOLUTION

(New Remedy for Ozena)

Tested and Recommended by Shizuo Okonogi, M. D.

Prepared by Takeshi Okazoe, M. D.

Hirotsuka Tamura, M. D.

There are several theories concerning the cause of ozena but nothing definite has been found and clinical doctors have deplored the lack of an effective treatment. This remedy prepared for the first time after many years of hard research by Doctors Okazoe and Tamura of the Otorhinolaryngology Laboratory, Medical Department, Keio University is now offered to the medical world after rigid tests. It is excellent for ozena and is manufactured and sold under the supervision of both doctors.

### Ingredients and properties:

The main ingredients are ethyl morphine hydrochloride and trichloro-oxyethyl-trichloro-tertiary-butyl-ether to which have been added silver colloid, a mucus solvent and glycerin. It is a light brown transparent liquid having a slight odor and a bitter taste. When applied to the mucous membrane of the nose it is slightly irritating but there is a marked feeling of pleasantness in the nose immediately.

### Pharmacological Action:

It causes congestion of the mucous membrane of the nose, slight swelling and increase of secretion and it increases phagocytosis and recovery from atrophy and is effective in ozena. Moreover, it prevents the growth of bacteria within the nasal cavity, removes the strange odor caused by decomposition of the secretions and makes the removal of mucus easy by softening it. Therefore, this preparation, applied in ozena, promptly removes its symptoms and gradually brings about a cure, heretofore considered incurable.

### Indications:

Ozena, simple atrophic rhinitis, dry inflammation of nose, ozena of pharynx and larynx, chronic catarrh of the pharynx and larynx, other obstructions of the nasal cavity of larynx accompanied by a feeling of dryness.

### Directions:

In cases of simple atrophic rhinitis accompanied by a little nasal mucus, douche the inside of the nose and cleanse it before applying ozaenol. Apply it with cotton to the nasal mucous membrane, massage lightly over the sensitive area and repeat this process once every day.



Patients with ozena or marked scabs should first apply this drug to the inside of the nose which will soften it facilitating separation from the mucous membrane. After douching the nose, the inside may be cleansed easily. After cleansing apply Ozaenol again, massage lightly over the atrophic area and repeat once every day. If this procedure is followed it will quickly stop ozena and the formation of scabs, lessen nose bleeding, reduce the subjective symptoms of headaches and makes possible a successful recovery from atrophy. Although this drug should be diluted when applied in mild cases, in the event its stimulating action is too strong, begin by diluting it to twice its volume with distilled water after which use a stronger solution.

(Note)

This drug may be used continuously with absolutely no fear of secondary reactions.

Packaging:

30 gm. per bottle  
100 gm. per bottle  
250 gm. per bottle  
500 gm. per bottle

Manufacturer:

Sakuragi Co., Limited Partnership  
721, 1-Chome, Ikebukuro, Toshima-Ku, Tokyo  
Telephone - Otsuka 1715